

Kubota engages in a wide spectrum of environmental control plant businesses, ranging from water treatment to solid waste treatment and recycling plants. Today, we are going to discuss the characteristics and strengths as well as the future strategies and outlook of each of these businesses with Mr. Takeshi Oka, who is responsible for Kubota's overall environmental control plant business.

First, can you provide an overview of the present status and outlook for the environmental control plant business in Japan?

One of the chief characteristics of the environmental control plant business in Japan is that this sector has been government-driven. Although private-sector-led environmental control plant businesses are highly advanced in Europe and the United States, the private sector in Japan still plays an extremely limited role in this field. Even in Japan, however, private-sector-led business in various environmental control plant fields is likely to expand, due in part to the implementation of the Japanese Private Finance Initiative Act. Moreover, the environmental control plant field is one of the most promising sectors in Japan. The Japanese government is placing high emphasis on promoting environment-related technologies, along with such sectors as biotechnology and telecommunications, as top growth fields in the 21st century. In addition, the general public is focusing more closely on the quality of the living environment,



Takeshi Oka, Executive Managing Director and Representative Director

and demand is growing for outstanding waste treatment technologies. In view of these trends, I believe that the environmental control plant business is likely to be supported at various levels throughout Japan.

Against this background, what are the characteristics of Kubota's environmental control plant business compared with the industry as a whole?

Kubota's environmental control plant business can be broadly classified into two categories: water treatment and solid waste treatment. The most notable feature of our environmental control plant business is that water treatment related fields account for about two-thirds of

our business revenues. Our water treatment technologies have been so highly acclaimed over the years that the name Kubota has become synonymous with water treatment, and we have built an extremely strong market presence in this field.

You spoke of Kubota's strength in water treatment. Could you describe Kubota's recent approach to this market?

Our water treatment business is centered primarily on advanced water purification plants, night-soil treatment plants, and facilities for treating leachate from refuse

landfill sites, and we boast top-class capabilities in each of these fields. The new Kubota technologies presently gaining recognition include a system that uses ozone

and ultraviolet rays to decompose dioxins and other toxic substances that are possibly contained in leachate from old refuse landfill sites. This system is attracting widespread attention because restrictions on dioxin emissions have been extended to cover dioxins in polluted water.

In night-soil treatment plants, it has become essential to take recycling into consideration, and there has been a shift away from facilities capable of only treating night soil toward the use of facilities that can also process sludge. As a means of cultivating new markets in this field, Kubota is using a methane fermentation system

that can process raw garbage and livestock waste material with night soil. The application of this technology also allows bio-gas produced from methane fermentation to be used for generating electric power, thus achieving a valuable means of recycling.



Dioxin-decomposition system

Next, will you briefly explain Kubota's strengths and strategies in the field of solid waste treatment?

Refuse incineration plants represent the nucleus of our business in solid waste treatment. Refuse incineration methods have been classified into three broad categories. The first is fluidized bed refuse incinerators, which have traditionally accounted for a large share of the market. However, it has been discovered that there is a high possibility of fluidized bed refuse incinerators leading to the creation of dioxins. Accordingly, the use of fluidized bed refuse incinerators will likely decline in the future. It should be noted that Kubota has never used fluidized bed incinerators for refuse incineration. The second method for refuse incineration is the stoker-type refuse incinerator, which is expected to remain the primary treatment method, particularly because it enables stable and easy operation in large-scale incineration plants. Kubota has traditionally used the stoker-type refuse incineration method and has steadily compiled numerous achievements using this method in large-scale facilities. The third method, gasification and

melting furnaces, has attracted particular attention, and demand for this type of plant is expected to grow because of its effectiveness in preventing the creation of dioxins. Kubota's gasification and melting furnaces are superior in terms of achieving low total installment costs and having outstanding capabilities for the high-grade melting and detoxification of ash. As these examples illustrate, Kubota is well positioned to cover all the methods expected to be used in refuse incineration plants in the future. From this perspective, Kubota is in a highly advantageous position in this field.



Gasification and melting furnace

What other new approaches is Kubota making in the field of solid waste treatment?

One of Kubota's solid waste treatment technologies recently gaining notice is a system that uncovers incinerated ash buried at landfill sites and uses Kubota's independently developed rotating-type surface melting furnace to melt and convert this incinerated ash into

slag, for such applications as road aggregate. Amid the nationwide shortage of land for refuse landfill sites, Kubota's revolutionary new system encourages the reuse of refuse landfill sites and the recycling of incinerated ash.



Pre-treatment facility



Rotating-type surface melting furnace

Kubota's environmental control plant business is almost entirely based in Japan.

Please describe your strategies for developing this business in overseas markets.

In our environmental control plant business, we have developed a wastewater treatment unit called the submerged membrane system, a unit product that simplifies membrane filtration technologies. Recently, this product has begun to find applications at sewage treatment plants in the United Kingdom and is attracting notice in continental Europe, home to numerous environmental control plant businesses. Also, Kubota anticipates increased demand for sewage treatment plants—one of the Company's strengths—in the nations of Southeast Asia and other countries as environmental restrictions are tightened in tandem with the economic development of these regions. We are currently considering appropriate methods for cultivating these markets.



Submerged membrane system

Finally, on what fields will you focus to increase overall sales in the environmental control plant business?

We have traditionally maintained a strong foundation in the water treatment business and will make our best efforts to cultivate new fields through the introduction of technologies such as those I have described. Thus, I am confident that the water treatment business will continue

to serve as a basis for the future development of our environmental control plant business. In terms of markets, however, we foresee solid waste treatment becoming a large market. Therefore, by further concentrating on this field, we are aiming for higher growth.